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September 15, 2003

Congressional Research Service
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RS21619

CRS REPORT
Prepared for Members and
Committees of Congress

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SUMMARY

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September 15, 2003

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Nuclear Weapons and U.S. National Security: A Need for New Weapons Programs?

In the 2001 Nuclear Posture Review, the Bush Administration outlined a new role for U.S. nuclear weapons that goes beyond the concept of deterrence from the Cold War. It also identified a new targeting strategy that would seek to threaten specific capabilities in adversary nations. Furthermore, the Administration has pledged to restore and enhance the U.S. nuclear weapons infrastructure, as part of the U.S. effort to deter the emergence of new threats in the future. In implementing the NPR, the Administration has requested funding for studies on new types of nuclear weapons. The Administration claims these projects, if they eventually produce new weapons, would enhance deterrence; critics claim they will make nuclear use more likely and undermine U.S. nonproliferation goals. This report will be updated as needed.

The Bush Administration's Nuclear Posture Review (NPR), completed at the end of 2001, sought to adjust the U.S. nuclear posture to reflect, on the one hand, the emergence of a more cooperative relationship between the United States and Russia, and, on the other hand, increasing threats from other states and non-state actors, particularly those armed with nuclear, chemical and biological weapons (weapons of mass destruction or WMD). The Administration has highlighted these changes in the international security environment in several documents, including the U.S. National Security Strategy and the Strategy to Combat Weapons of Mass Destruction. The Administration has also emphasized that the United States will use any means necessary to deter or defeat the use of WMD by rogue nations or terrorist groups. One of the issues highlighted in the Nuclear Posture Review is the role that nuclear weapons might play in addressing these emerging threats.[1]

When Congress reviewed the NPR in early 2002, much of the debate focused on proposed reductions in strategic offensive nuclear weapons and the eventual disposition of warheads removed from deployment. This debate coincided with the negotiation of the Strategic Offensive Reductions Treaty (Treaty of Moscow), which codified the NPR's recommendation that the United States reduce its operationally deployed strategic forces to between 1,700 and 2,200 warheads by 2012. But the NPR's recommendations went beyond reductions in deployed nuclear warheads. It outlined a new doctrine on the role of nuclear weapons in U.S. military and security strategy; it identified a new targeting strategy that would guide decisions about the size and structure of U.S. nuclear forces, and it revised plans to rebuild and restore the U.S. nuclear weapons infrastructure so that the United States could maintain and enhance its nuclear forces for the foreseeable future. To implement these changes, the Bush Administration has requested funding for research into new nuclear weapons concepts, relief from legislation passed in 1993 that prohibited research on low-yield nuclear weapons, and funding to enhance U.S. readiness to conduct explosive nuclear tests.

This report summarizes how changes in U.S. nuclear weapons doctrine and strategy, along with the renewed emphasis on the nuclear weapons infrastructure, contribute to the Administration's plans for new nuclear weapons programs. It also reviews several issues raised during the debate on these programs that may serve as the foundation for a broader debate on the role of nuclear weapons in U.S. national security. The report does not provide a comprehensive review of the Nuclear Posture Review or a detailed description of the new weapons research programs.[2] Instead, it seeks to provide a context for debate about these new weapons programs.

Nuclear Doctrine

Throughout the Cold War, the United States maintained nuclear weapons *to deter* nuclear and conventional attacks by the Soviet Union and its allies against the United States and its allies. At its extreme, such a conflict could have led to a global nuclear war. But the United States also did

[1] The potential use of nuclear weapons to deter or defeat the use of WMD during a conflict *is not* the same thing as the preemptive use of military force, i.e., the initiation of a conflict, against a nation armed with WMD. While the United States does not rule out the possible use of nuclear weapons at any point in a conflict, the recent war in Iraq demonstrates that the preemptive use of force can, and almost certainly will, consist of attacks with conventional weapons.

[2] For a detailed review of U.S. nuclear posture see U.S. Library of Congress, Congressional Research Service. U.S. *Nuclear Weapons: Changes in Policy and Force Structure*. CRS Report RL31623, by Amy F. Woolf. October 28, 2002. For details on the nuclear weapons research, CRS report RS20834, by Jonathan Medalia and a more comprehensive report anticipated for late September 2003.

not rule out the possible use of nuclear weapons in smaller conflicts or to achieve goals other than deterrence. However, because U.S. forces were sized to meet the Soviet threat, other nations and other threats to U.S. security were viewed as "lesser included cases."

The Bush Administration has emphasized that, even with the demise of the Soviet Union, nuclear weapons "continue to be essential to our security, and that of our friends and allies."[3] Furthermore, it has identified a role for nuclear weapons that it asserts is both more comprehensive than the Cold War concept of deterrence and more integrated with the rest of the U.S. military establishment. The Administration has argued that nuclear weapons, along with missile defenses and U.S. conventional forces, not only *deter* adversaries from attacking the United States during a conflict or crisis by promising an unacceptable amount of damage in response to an adversary's attack, they can also *assure* allies and friends of the U.S. commitment to their security, *dissuade* potential adversaries from challenging the United States during a crisis with nuclear weapons or other "asymmetrical threats," and *defeat* enemies by holding at risk those targets that could not be destroyed with other types of weapons.[4] Many analysts see little difference between these goals and those the United States pursued during the Cold War. Nevertheless, according to the Bush Administration, to support this broader array of objectives, the United States may need nuclear weapons that are different, in both numbers and capabilities, from the weapons remaining in the U.S. arsenal after the Cold War.

Targeting and Employment Planning

During the Cold War, the United States maintained the numbers and types of nuclear weapons that it believed it needed to threaten the full range of potential targets in the Soviet Union. The Bush Administration has referred to this as "threat-based" targeting because it is linked to the "Soviet threat." The Administration has stated that the United States will no longer use this model to calculate its nuclear requirements. Instead, the United States would "look more at a broad range of capabilities and contingencies that the United States may confront" and tailor U.S. military capabilities to address this wide spectrum of possible contingencies.[5] Specifically, the United States would identify potential conflicts, review the capabilities of its possible adversaries, identify those nuclear capabilities that the United States might need to attack or threaten the adversary, and develop a force posture and nuclear weapons employment strategy that would allow it to attack those capabilities. For most possible contingencies, such as those against North Korea or other rogue nations, the numbers of required nuclear weapons is likely to be very small. But, according to the Administration, Russia presents a "potential contingency" that could emerge if the relationship between the two nations were to change. Most analysts believe that this "potential" is the source of the Administration's interest in retaining several thousand nuclear weapons in the U.S. arsenal.

The Bush Administration has not described the specific capabilities it will target with this new strategy. During the Cold War, the United States sought to target military, industrial, and leadership facilities in the former Soviet Union. Similar facilities are likely to be included on the

[3] U.S. Senate. Committee on Armed Services. Statement of the Honorable Douglas J. Feith, Undersecretary of Defense For Policy. February 14, 2002.

[4] U.S. Department of Defense. Special Briefing on the Nuclear Posture Review. News Transcript. January 9, 2002. See http://defenselink.mil/cgi-bin/dlprint.cgi. These are the same four defense policy goals outlined in the Quadrennial Defense Review for the whole of the U.S. military. See U.S. Department of Defense. Quadrennial Defense Review Report. September 30, 2001, p. 11.

[5] U.S. Senate. Committee on Armed Services. Statement of the Honorable Douglas J. Feith, Undersecretary of Defense For Policy. February 14, 2002.

list of "capabilities" that the United States would want to threaten in some contingencies with other nations because, by destroying these capabilities, the United States could expect to achieve its war objectives. The Bush Administration has specifically highlighted hardened and deeply buried targets and facilities housing nuclear, chemical, or biological weapons as potential capabilities that it might want to threaten. These types of targets are not new to U.S. war plans because the Soviet Union had many hardened and deeply buried targets, such as missile silos and command posts, and it had storage depots that housed chemical weapons. The United States presumably planned to attack and destroy these facilities in a conflict with the Soviet Union.

According to the Administration, however, the United States cannot be certain where these threats will appear in the future. Therefore, it must plan for known, potential, and unexpected contingencies.[6] Further, to deter potential and unexpected contingencies, the United States would need the capability to credibly threaten targets in nations that it may not be able to identify ahead of time. It also must have the intelligence to identify these targets and the rapid targeting and response capabilities to address these contingencies as they come up. Hence, the difficulties with this approach stem from more than just a requirement to attack hardened and deeply buried targets.

Nuclear Weapons Infrastructure

The Bush Administration is attempting to integrate the nuclear weapons infrastructure into its new concept of deterrence. According to the Administration, an infrastructure that allows the United States to sustain its forces and adapt them to meet emerging needs would "provide the United States with the means to respond to new, unexpected, or emerging threats in a timely manner." Furthermore, the "ability to innovate and produce small builds of special purpose weapons would convince an adversary that it could not expect to negate U.S. nuclear weapons capabilities."[7] The Administration has also linked the modernization of the nuclear weapons complex to its plans to reduce the size of the U.S. nuclear arsenal. The planned reductions will occur in parallel with improvements in the weapons complex to ensure that the reductions did not get ahead of the U.S. ability to maintain and modernize its remaining weapons.

The Administration has identified several specific tasks that the infrastructure must accomplish over the next decade. Many are associated with the efforts to maintain and refurbish existing nuclear weapons. But the Administration has also outlined plans to establish small "advanced warhead concepts teams" to evaluate evolving military requirements and assess options for new or modified warheads.[8] The Administration notes that this effort will not only prepare the United States to respond to emerging threats, but will also help train the next generation of weapons scientists. The Administration has also requested funding for a study on the conversion of an existing nuclear weapon into a "robust nuclear earth-penetrator" and for a study that will explore options for the design of a new low-yield nuclear weapon. The Administration argues that this research will not inevitably lead to the design, development, and production of new weapons. Nevertheless, many analysts fear that the United States will eventually produce new weapons to support an enhanced warfighting role for nuclear weapons.

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[6] The following summarizes the discussion in the Secretary of Defense's Annual Report. See U.S. Department of Defense. Annual Report to the President and Congress. Donald H. Rumsfeld, Secretary of Defense. Washington, 2002. p. 88.

[7] U.S. Senate Committee on Armed Services. Statement of John A. Gordon, Undersecretary of Energy for Nuclear Security and Administrator, National Nuclear Security Administration. February 14, 2002.

[8] U.S. Senate Committee on Armed Services. Statement of John A. Gordon, Undersecretary of Energy for Nuclear Security and Administrator, National Nuclear Security Administration. February 14, 2002.

Issues for Congress

Battlefield Nuclear Weapons

During the Cold War, the U.S. nuclear arsenal contained many types of delivery vehicles for nuclear weapons, including short-range missiles and artillery for use on the battlefield, medium-range land-based and sea-based missiles and aircraft, long-range missiles based on U.S. territory and submarines, and heavy bombers that could threaten Soviet targets from their bases in the United States. In the early 1990s, the United States withdrew from deployment and eliminated almost all of its shorter- and medium-range nuclear weapons, leaving a force consisting of mostly longer-range strategic weapons. The United States concluded that the shorter range systems had little utility after the demise of the Soviet Union and the virtual elimination of the threat of a ground war in Europe or Asia. Under these circumstances, the United States no longer needed to threaten targets, such as troop concentrations or support and logistics facilities, on the battlefield.

If it deploys the new types of nuclear weapons under consideration by the Bush Administration, the United States could return to a nuclear posture that includes battlefield nuclear weapons. Unlike during the Cold War, when battlefield weapons were deployed near their targets, the United States might use long-range or intercontinental missiles or aircraft to deliver these weapons. But they would, like the shorter-range weapons of the Cold War era, seek to achieve precise objectives on the battlefield, assuming, of course, that the United States had the intelligence and targeting capabilities to identify these targets. Many analysts consider these weapons more useful for war-fighting than deterrence, and many have questioned whether the Bush Administration, in pursuing these weapons, might be moving the United States towards a posture where it would be more likely to use nuclear weapons in a conflict.

Credible Deterrence vs. Likelihood of Use

The debate over whether the new nuclear weapons concepts are better suited to warfighting or deterrence follows from a more fundamental debate over how to make deterrence credible. This debate surfaced frequently during the Cold War, when the United States sought to deter not only a Soviet nuclear attack on the United States but also a conventional attack by the Soviet Union or its allies against U.S. allies. Many analysts consider this issue to be even more relevant now, when the United States might seek to use its nuclear deterrent in contingencies with more specific and limited goals against an adversary who possesses few or no nuclear weapons. The Bush Administration plans to develop a more focused nuclear war-fighting capability for the United States, one that includes an improved ability to destroy hardened and deeply buried targets and other capabilities in a number of nations that might threaten the United States. It has stated that these plans and capabilities would make nuclear use *less likely* because it would make the U.S. deterrent more credible and robust.[9]

Critics of the Administration's policy question this contention. Many analysts doubt that leaders of smaller, non-nuclear countries will view any U.S. threat to use nuclear weapons as credible, regardless of the yield or capability of U.S. nuclear weapons. If they do not believe the United States will strike with nuclear weapons, then they would not be deterred by the threat. Others argue that the United States can credibly threaten any nation, and therefore deter or defeat that nation, with its conventional forces. They believe this eliminates any requirement for new and improved nuclear weapons. And some analysts question whether nuclear threats against specific,

[9] McManus, Doyle. Nuclear Use as "Option" Clouds Issue. Los Angeles Times. March 12, 2002. p. 1.

and possibly remote facilities, will deter leaders in smaller, rogue nations. These leaders may believe they can absorb a small nuclear strike from the United States and still achieve their war aims.

Critics of the Administration's policy, therefore, fear that by developing nuclear weapons for battlefield uses, the United States may be more likely to use these systems in a conflict. They worry that this would be particularly true if the adversary could not strike back against the United States with nuclear weapons, as the Soviet Union could. These analysts fear that, as time passes, as the memories of the horrors of nuclear use fade and as concerns about the horrors of chemical and biological weapons increase, U.S. officials may begin to believe that the unilateral use of nuclear weapons by the United States represents the less horrible outcome for the United States than the alternative where an adversary uses chemical or biological weapons against U.S. interests.

U.S. Nuclear Posture and Nonproliferation Policy

The Bush Administration has stated that nuclear weapons will play a role in U.S. security policy for the foreseeable future. But, under the 1968 Nuclear Non-proliferation Treaty, the United States has pledged to reduce the role of nuclear weapons in U.S. security policy. The Administration claims that these two goals do not conflict; nuclear weapons will play a smaller, albeit important role in U.S. policy than they did during the Cold War era. Critics, however, argue that the U.S. approach may undermine U.S. efforts to discourage nuclear proliferation. Some believe that it would be difficult for the United States to urge restraint on nations that may be close to acquiring nuclear weapons if it demonstrates, with its own nuclear posture, that nuclear weapons are critical to national security. Some analysts have also noted that, if potential adversaries were to acquire nuclear weapons, the threat they pose to U.S. security could grow dramatically. Consequently, these critics argue, the United States should seek to "marginalize as much as possible the role that nuclear weapons play in U.S. defense and foreign policy."[10]

Others, however, argue that U.S. nuclear policy is not likely to affect U.S. nonproliferation policy because countries seeking nuclear weapons do so because they have concerns about their relationships with regional adversaries, not because the United States has nuclear weapons. In addition, the Bush Administration has argued that the U.S. development of nuclear weapons that can defeat hardened and deeply buried targets or can destroy stocks of chemical and biological weapons are a part of the U.S. effort to discourage other nations from acquiring and threatening to use WMD.

Regardless of the implications, the United States has clearly begun to pursue research, and possibly the development, of new nuclear weapons. Although it is unlikely to resolve the theoretical controversies, Congress may review and debate the merits and particulars of these programs — and their broader implications — in the coming months.

[10] Nations can only negate the overwhelming U.S. conventional superiority with nuclear weapons, so "it is in U.S. interest to keep the firewall between nuclear and conventional high and strong." Daalder, Ivo and James M. Lindsay. *A New Agenda for Nuclear Weapons*. The Brookings Institution. Policy Brief No. 94. February 2002. p. 6.

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